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ABSTRACT

This paper presents a study of the interactive effects of developmental factors, types of tasks, and types of models on imitation. Subjects for the study were 16 boys and 16 girls at each of the ages of 7, 10, and 14 years. Each child was administered two types of imitation tasks: an objective task on which children judged the age of unfamiliar persons from photographs and a subjective task on which children judged the attractiveness of unfamiliar persons from photographs. Tasks were also varied by having models agree or disagree on the age and attractiveness judgments. The model dimension was varied by attributing judgments about selected photographs to parents or to strangers. The first hypothesis for the study suggested that older children would be more capable of differentiating between subjective and objective tasks than younger children and that this in turn would lead to differences in imitation. This hypothesis was confirmed in the models agree condition. The second hypothesis suggested that developmental differences in affective ties to models would influence imitative responses. A more complex interaction was found, however. Results indicated an increase in imitation with age in the strangers agree, strangers disagree and parents disagree conditions, but no change with age in the parents agree condition. Other results indicated significant main effects for age, model and model agreement. Taken together, the results from the study suggest that imitation is influenced by development in interaction with situational factors, including type of task and type of model. (BD)

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# Developmental Differences in Imitation

Paper presented at APA Convention

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## Developmental Differences in Imitation

A persistent stumbling block in the area of imitation is that those interested in development (Freud, 1923; Kohlberg, 1969; Piaget, 1957) have tended to neglect situational factors, and that those interested in situational factors (Bandura, 1969) have tended to neglect developmental concerns (cf. Hartup & Coates, 1970). In the present study a developmental perspective was adopted to investigate differences between types of tasks and differences between types of models--which are among the most widely researched situational factors.

Two major hypotheses were advanced in the present study. First that cognitive development leads to increased differentiation between types of tasks, which in turn leads to differences in imitation (cf. Zigler & Yando, 1972). Specifically, it was predicted that young children who cannot distinguish between objective and subjective judgments will imitate equally on both, but that older children who can appreciate this distinction will imitate to a different degree on the two tasks. That is, they will imitate less on subjective matters (where the models' responses are seen as "merely" matters of preference) than on objective matters (where the models' responses are seen as valuable cues in determining the correct response). The second hypothesis was that developmental differences in affective ties to models will influence the relative imitation of different models. Since development is accompanied by greater reliance on extra-familial agents, it was predicted that imitation of strangers would approach imitation of parents at older ages.

The study employed 16 girls and 16 boys at each of the ages 7, 10, and 14. Each child was administered two imitation tasks: an objective task on which children judged the age of unfamiliar persons (i.e., photographs showing

head and shoulders) and a subjective task on which children judged the attractiveness of unfamiliar persons. The tasks consisted of several sets of photographs pre-selected so as to be ambiguous with respect to looks, on the subjective task, or age, on the objective task. Two stickers supposedly representing the responses of a male and a female adult were placed under randomly selected photographs in each set. On some sets the responses were under the same photograph (models agree) and on other sets they were under different photographs (models disagree). Half the children were told that these responses were from their parents and half were told that these responses were from parents of a child in another classroom (strangers). The dependent variable was the number of times the child selected the photograph previously selected by one (models disagree) or both (models agree) of the adults. Comprehension of the concept of objectivity (i.e., that judgments of age can be evaluated as correct or incorrect) and the concept of subjectivity (i.e., that judgments of looks can be evaluated as preferred or non-preferred) were assessed after administration of the imitation tasks.

The findings revealed three significant main effects: a linear increase in imitation with age $F(2, 84) = 3.92$, $p < .05$, greater imitation of parents than strangers, $F(1, 84) = 7.67$, $p < .001$, and greater imitation of agreeing models than disagreeing models, $F(1, 84) = 71.88$, $p < .001$. (Scores were based on the percentage of items on which imitation was observed minus the percentage of items on which imitation was expected by chance).

In accord with predictions mentioned earlier, the difference between imitation on objective and subjective matters was greater at older ages than at younger ages, although this interaction only held in the models agree

condition. Also consistent with the predictions was the finding that the difference between objective and subjective imitation was greater for children who understood the distinction between objectivity and subjectivity than for those who did not, $F$ (1, 60) = 4.78, $p < .05$. Another finding was an interaction involving, age, model (parents vs. strangers) and agreement of models, reflecting an increase in imitation with age in the strangers agree, strangers disagree and parents disagree conditions, but no change with age in the parents agree condition, $F$ (2, 84) = 5.28, $p < .01$. I might add that imitation in the parents agree condition was greater than imitation in the other three conditions at younger ages, and that imitation in this condition maintained a stable level across development, whereas imitation increased in the other three conditions, and approached the level of imitation in the parents agree condition.

Interpretations of the main effect for age must be tempered by the findings of interactions between age and other factors. In addition, several variables in the present study which were not systematically varied may have contributed to the developmental increase in imitation. For example, task ambiguity may accentuate the recognition of one's limitations and model absence may necessitate reliance on internal representations of the model--factors which may increase with age, thereby accounting for the present findings of a developmental increase.

Differences in imitation on objective and subjective tasks supported the value of this distinction. Since comprehension of the objective-subjective distinction relates to differences in imitation, the cognitive-developmental underpinnings of this imitative behavior have been established.

One of the interesting implications of these findings, in fact a consideration which drew me to this study, is that imitation on moral and ethical matters may depend on whether children see them as matters of objective truth or as matters of subjective opinion.

Greater imitation of parents than strangers and of agreeing than disagreeing models support intuitive, but previously untested, notions involving these factors. The second order interaction involving age, model, and agreement, which was not predicted, suggests that developmental differences in the influence of models is complexly determined by their relationship to the child (i.e., whether they are parents or strangers) and their presentation of a united or divisive front (i.e., whether they agree or disagree). Just as cognitive development mediates imitation on different tasks, development of social-emotional ties mediates imitation of different models.

Taken together, findings from the present study demonstrate that imitation is influenced by development in interaction with situational factors, including type of task and type of model. A developmental perspective is needed to further elucidate these factors and, ultimately, to lay the foundation for a unified theory of imitation.

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